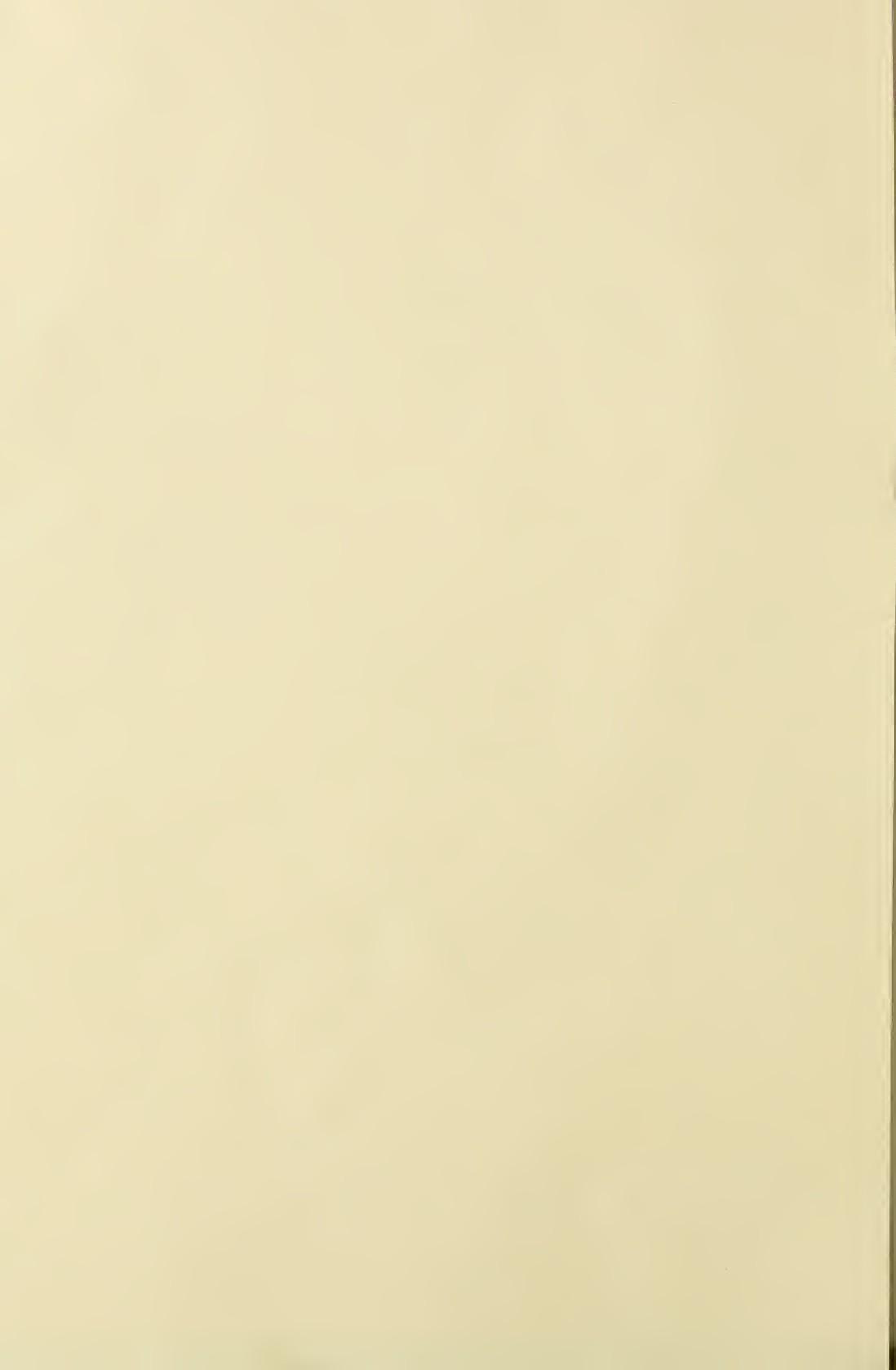


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GLEANINGS OF BEE CULTURE

A JOURNAL
DEVOTED
TO BEES,
AND HONEY,
AND HOME
INTERESTS.

ILLUSTRATED
SEMI-MONTHLY
Published by THE A. I. ROOT CO.
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VOL. XXIX

OCT. 1, 1901.

No. 19.



"WE HAVE COMBS over 40 years old that I would not exchange for the same area of foundation," says C. P. Dadant in *Amer. Bee Journal*.

SMALL PLOTS of alfalfa have been raised at Medina, and large fields of it in my county. But if it yields no nectar, and if it is worth no more for fodder than sweet clover, why raise it?

A. I. Root, the poultryman, says, p. 762, he doesn't work for pure blood nor color, but for vigor and strength. I prefer pure blood; but if I can find sufficient improvement outside of pure blood, the pure blood can go.

IF RAMBLER doesn't stop throwing stones into my Straw-cutter, p. 745, I'll swap it for a meat-grinder, and put him through. [I will furnish the meat-grinder if you will "put him through." He has been throwing clods of dirt over into my wheat-fields. Yes, pulverize him.—ED.]

IT JOLTS one's feelings to have the editor talk on page 748 as if Eastern bee-keepers must take top-bars they don't like just because it serves the convenience of the manufacturers, and he at the same time so strong on "difference of locality." But one is reassured by reading on the next page that several styles of frames are made.

TO HOLD combs in frame when transferring, C. P. Dadant uses No. 16 wire bent at right angles at each end, long enough to have one end driven into the top-bar and the other into the bottom-bar, holes being previously punched with an awl. For small pieces in corners a short wire may go from top or bottom to end-bar.—*Amer. Bee Journal*.

THE WORST DANGERS of in-breeding are where two beings are mated that are of exactly the same blood, having the same fa-

ther and mother. Fortunately, the bee-keeper need take no pains to avoid such close breeding; nature takes care of that. A drone and a queen from the same mother are not full brother and sister, for the father of the queen is not father of the drone. The only way to mate two of exactly the same blood is to mate a drone to his mother, and the drone is born too late for that.

VERNON BURT's plan of leaving a hive full of brood with no bees till they hatch out, p. 755, would generally result in loss of brood in this locality. [Why? You will recall that I explained that Mr. Burt makes sure there is plenty of hatching brood, and that this work is done during the height of the honey-flow. Try the experiment, doctor. Take a note of the unsealed brood in each comb, and then see whether any of it starves or dies for want of nurses to take care of it.—ED.]

FROM WHAT is said, p. 753, some one has been losing queens by following Doolittle's instructions to set in place of a full colony a hive full of combs of brood, one of them with its bees and queen being from a nucleus. This season I did something nearly in that line, the only difference being that I put no brood except the one or two frames from the nucleus, and it is possible that if the hives had been filled with brood there would have been no failures. Out of 35 cases, 9 queens turned up missing. The queens should have been caged.

YOU THINK, Mr. Editor, that in a normal honey-flow in full blast bees don't lunch on eggs, p. 380. Now when a queen of Stachelhausen's laid 71,400 eggs in 21 days, don't you think it likely there was a normal honey-flow in full blast, or at least full enough to prevent lunching? and then where would you be with your "large force" of 40,000 or 50,000? [I am not familiar with, or perhaps I do not recall, the reference to which you refer, of Stachelhausen's queen that laid 71,400 eggs in 21 days. Mr. Stachelhausen is one of the very best bee-keepers; but how could he or any one say positively that the queen did not lay

more than the 71,400 eggs in the time stated? But such a feat of egg-laying I should think was rather exceptional; and I am still inclined to adhere to my original proposition, that, ordinarily speaking, 40,000 to 50,000 bees would be considered a large force.—ED.]

PRACTICE on a sufficiently large scale is worth more than theory. So when McEvoy has safely used 5000 hives that had contained foul brood, and the Roots have safely used beet sugar for 20 years, we may dismiss anxiety as to those two items. [I am sorry to demolish one of the settled facts; but Mr. Gilmore, that expert whom I met at Buffalo, tells me that, in all probability, we have been feeding cane sugar for the last ten or twenty years, and he is a beet-sugar man, you know. See editorial on this subject elsewhere.—ED.]

PROF. COOK pleads for the use of correct terms, and wants us to stop saying "worms" when talking about the larvæ of the bee-moth, which are not worms at all in the language of entomologists. My sympathies are with the professor as to using correct language, and I wish he would tell us what to say in place of "worms." The word is used so often that it would be rather expensive business to use in its place something with five times as many syllables, and say "larvæ of the bee-moth." Give us a correct name in one or two syllables, professor, and we'll all try to fall in line. And tell us, please, what to call "wormy" combs.

TAKING AWAY honey and filling up with sugar for winter is advised, p. 755. I don't know whether there is any thing in the objection, but some German writers strongly object that such feeding will lead to enfeeblement of constitution. [It has been orthodox teaching in this country, or at least it used to be, that sugar syrup was the very best winter food for bees. Indeed, some used to advocate extracting the honey out of the combs, even if the sugar syrup cost as much as the honey removed, pound for pound. Now, I ask for information: Do the Germans mean that feeding induces a drain on the vitality of the bees to ripen or invert the syrup? If they do, I do not recall that any one in this country has observed such weakness.—ED.]

THE DRONE is always a half-orphan, for his father is always dead before he is born. He never has a full sister, for the father of his mother's female children is never his father. In fact, he never has any father except his grandfather, and he never lives to see any of his children. [Perhaps you are right; but how do you *know* that the father of the drone's sister does not exert some potent influence on the drone himself? If so, is he not a full brother to the queen? I have to plead ignorance, as I did not hear the discussion at the Buffalo convention on this point, being out of the room at the time on committee work. Perhaps the Germans settled this long ago; but it used to be said,

and the statement may be true, that the drones from a queen that had never met a drone were not capable of performing the function Nature designed. Really, I do not see how the matter can be proven one way or the other.—ED.]

"SWARTHMORE" makes a "digression," p. 743, so interesting and at the same time so much at variance with generally accepted belief that one wants to ask how he knows. He says young queens will meet the drone 6 to 12 times, and lay the second day after becoming pregnant. [My, oh my! I must have failed to note that "digression" of Swarthmore's, or I should have challenged it. Such a statement, unless supported by the best of proof, borders very strongly on heresy—at least heresy in beelore. All our authorities have taught, supported by the best of evidence, that the queen meets the drone but once. If she meets him oftener than this, it is a new and interesting fact. But the other statement, that the queen may lay in two days after becoming pregnant, may not be so far wrong. If I remember correctly, I once saw one queen coming out of her hive, bearing visible evidence of fertilization (threadlike filament), and in two days afterward I have found her laying; but my records, I think, showed that queens usually take three or four.—ED.]

"I BELIEVE," says ye editor, page 742, "the best solution of the hive-cover problem will be two boards $\frac{3}{8}$ in. thick separated by a $\frac{3}{8}$ air-space." It does me a lot of good to hear that, for it's what I've urged this long time, and I'm now using covers unfit for use because the right cover is not yet on the market. But remember the upper and lower board must not have the grain running in the same direction. Rambler says the air-space "is necessary in hot locations." So it is in cold locations, being warmer in cold weather than a single board without the air-space. [Some days ago Mr. Calvert sent some samples of covers, such as I described on page 742, to a number of prominent bee-men, as well as dealers, located in various parts of the country. A good many of the replies have now been received; and nearly all favor a single-board cover in place of the double board with air-space. Indeed, the Excelsior cover with sloping sides and ridge-board is considered quite good enough. This is a surprise, as it seems to us that a double cover would be better on all accounts.—ED.]

W. H. H., Ore.—The action of the sun on the face of comb honey is to bleach or whiten rather than to discolor or turn to dirty yellow. There is plenty of evidence to prove that. The statement that the drones lay eggs is the veriest nonsense; and any man who goes to talking that way should be ignored and pitied. Life is too short to waste on any such discussion as that.



In Maurice Maeterlinck's "Life of the Bee" we have for at least once a book on bees that is thoroughly sound, very interesting, and one that every bee-keeper should have. It is by no means technical. It is beautifully written, and abounds in moral reflections and poetical digressions. It will appeal to every bee-keeper and bee-lover. One of the most remarkable passages in the book is a description of a rural scene in Normandy, France. Outwardly it seems like a little paradise, the natural surroundings being so beautiful that man can not improve them. Here we may expect a perfect state of society; but let us, with the writer, get a little nearer. He says:

Can you distinguish the song that blended so well with the whispering of the leaves? It is made up of abuse and insult; and when laughter bursts forth, it is due to an obscene remark some man or woman has made, to a jest at the expense of the weaker—or the hunchback unable to lift his load, the cripple they have knocked over, or the idiot whom they make their butt.

I have studied these people for many years. We are in Normandy; the soil is rich and easily tilled. Around this stack of corn there is rather more comfort than one would usually associate with a scene of this kind. The result is that most of the men, and many of the women, are alcoholic. Another poison also, which I need not name, corrodes the race. To that, to the alcohol, are due the children whom you see there: the dwarf, the one with the hare-lip, the others who are knock-kneed, scrofulous, imbecile. All of them, men and women, young and old, have the ordinary vices of the peasant. They are brutal, suspicious, grasping, and envious; hypocrites, liars, and slanderers; inclined to petty, illicit profits, mean interpretations, and coarse flattery of the stronger. Necessity brings them together, and compels them to help each other; but the secret wish of every individual is to harm his neighbor as soon as this can be done without danger to himself. The one substantial pleasure of the village is procured by the sorrows of others. Should a great disaster befall one of them, it will long be the subject of secret, delighted comment among the rest. Every man watches his fellow, is jealous of him, detests and despises him.

The book is published by Dodd, Mead & Co., New York. Price \$1.40.

PACIFIC BEE JOURNAL.

Concerning a new honey-plant and the relative value of different strains of bees, I find the following editorial too interesting to admit of condensation:

Mr. G. M. Hawley, El Cajon, writes me concerning the *Grevillea robusta* as a honey-plant. He says that the flowers are fairly swimming with nectar. By shaking the tree he can wet the ground with the sweet liquid. He remarks that he never saw anything comparable with it before. The bees have left white sage and buckwheat entirely, and are swarming on the grevillea blossoms. Mr. Hawley also comments on some very white comb honey which some of the bees are producing. These are from a certain queen which he imported from the East last season. The honey from the other bees is much darker. Examination shows that the first bees are gathering entirely from black sage, while the others are gathering their nectar from flowers that yield a darker honey. This black sage is from two to five miles distant. I have often noticed what Mr. Hawley has discovered, that different strains of bees often gather from different

sources. I have no doubt that the vigor of the bees and the relative length of tongues may account for this. Mr. Hawley says these new ones are elegant bees, light-colored, great workers, practically non-swarmers—indeed, the ideal bee for California.

I have also noticed that the grevillea is a very excellent honey-plant, while all our sages furnish honey that is unexcelled in excellence of color and flavor.

Touching the honey crop in California for this season, Mr. F. E. Brown, of Hanford, says:

Our honey crop is the lightest up to date that has been known for the past ten years. Bees as a rule are in the poorest condition for this season of the year that I have ever seen and we shall not have more than $\frac{1}{2}$ the usual yield. What little we have we are storing, not offering any thing to the market, as the price is too weak—believing that, as soon as the buyers find out the true condition of the output, prices will be restored to a reasonable rate.

The reports as to hundreds of carloads from the southern part of California seem to have been premature.

Temescal shipped 40 tons of honey this year—a splendid yield for a little place, surely. Isaiah Anderson, of that town, has, for the first time in 26 years, secured honey from bald sage.

R. A. Holley, foul-brood inspector of Ventura Co., reports having found about 625 colonies in that county afflicted with foul brood.



EDITORS AND OTHER PEOPLE.

BY ARTHUR C. MILLER.

Mr. Root:—In a recent editorial you referred to an article of mine which appeared in your issue for May 1st, and which contained some reflections on the authors of our text-books and the editors of our papers. Another communication by me in the *Review*, leading to subsequent articles by others, has evidently given the matter an interpretation which I never intended—that is, charging the editors with general ignorance.

It is a delicate task to point out to another his ignorance of a subject on which he has written, and perhaps it would have been more considerate had I taken it up in a personal letter, though, as things have developed, and as the publication of the article has set us all to doing a little introspection, it may not turn out to have been a serious error. But a very recent article in one of the papers evinces considerable bitterness of feeling against yourself, and in consequence I feel it necessary to write a few words of caution and explanation. I feel that this devolves upon me because I, figuratively, threw the first stone.

There are none too many contributors to our bee-journals who possess a broad education, and there appear to be some who do

possess a very limited power to grasp and liberally interpret what they read, or, to use a very expressive nautical phrase, appear unable to "take things by and large."

With the utmost care, a scholarly man is not always able so to express himself as to avoid misinterpretation by the latter class above referred to; and when a hurried or careless writer contributes an article it is pretty certain to be misinterpreted by some one. If every one will bear this in mind, and forbear to retort until after sober second thought, it will save much bitterness of feeling and also much valuable space in the papers.

It is neither feasible nor desirable that communications to the apicultural press should be confined to scholarly members of the profession; on the contrary, it is necessary to encourage the eminently practical though nonscholarly bee-keepers to contribute of their experience. But there is one thing most of us, I fear, are prone to do; and that is, to express our opinions on matters about which we have only the most superficial knowledge. Without entering into a discussion as to why, I may assert that an editor's remarks generally have greater weight than those of his contributors. When he writes on a subject about which he is ignorant, or at best but indifferently posted, and attaches that as a footnote to the article of some person who may be deeply learned in that of which he has written, the editor hurts his paper and himself, and inflicts a deep injury on the contributor. It is idle for any one to charge that an editor would willfully do this. It is not within the precincts of this article to say what an editor should do, whose contributions he should encourage, whose shut off; that is a matter personal to himself. But when he misleads us, or by a careless paragraph checks investigation of new lines or profitable researches in old, then he lays himself open to just criticism from the subscribers to his paper.

In our present scrutiny of the editors it should not be forgotten that there are other persons against whom the charge of ignorance, thoughtlessness, or spleen may perhaps often be more justly made. We, the contributors, are those other persons.

Both sides may well consider the oft repeated lines of Burns:

Oh wad some power the giftie gie us
To see oursel's as ithers see us!
It wad frae monie a blunder free us,
An' foolish notion.

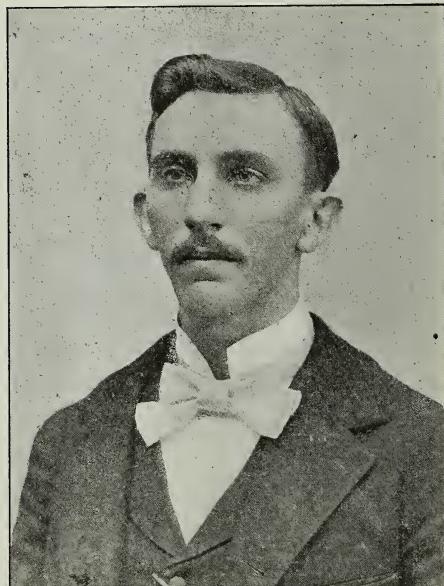
[While it may be true that an editor's remarks have greater weight than those of a contributor, it by no means follows that he knows more. It is his business to select the best that is sent to him for publication, and then, as far as possible, direct discussion along profitable lines as best he can. If he errs in an expressed opinion let the contributor point out the mistake. I see nothing in the foregoing article to which an editor or contributor should object. It is all true.—ED.]

NOTES OF TRAVEL.

Bee-keepers' Paradise, Uvalde Co., Texas; the most Extensive Bee-keeper in that Paradise.

BY E. R. ROOT.

Before describing some of the great honey-plants of this wonderful portion of Texas, not over 40 miles square, where a whole trainload of honey has been shipped out in one season, and where one bee-keeper, Mr. D. M. Edwards, with 500 colonies, has secured as high as 75,000 lbs., I desire to introduce to you Mr. W. D. Bunting, the most extensive producer in that paradise of bees.



W. D. BUNTING.

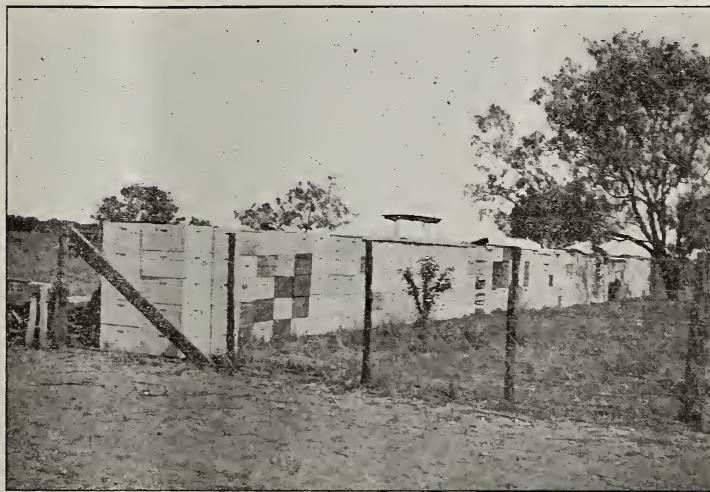
Our friend is not over 31 or 32 years of age, I should say; and yet for all-around success in producing and handling a large number of colonies, no one, I believe, excels him. When Mr. Edwards and I drove up to his ranch we found him and his brother at the house, doing up the dishes, for they are "baching it." Just how much longer they propose to continue in this sort of way I can not say. This is not the first time I have run across bee-keepers doing house-work; and while I enjoyed the meals most heartily that these fellows spread out when I had the pleasure of sitting at their boards, yet I most respectfully suggest to them that, if there are any "best girls" left, they join hands for better or for worse, and keep house in the good old orthodox style. I not only believe in Horace Greeley's advice, "Go west, young man," but I also believe

in A. I. R.'s injunction to all good prosperous young men, to win some good girl. Texas is full of them.

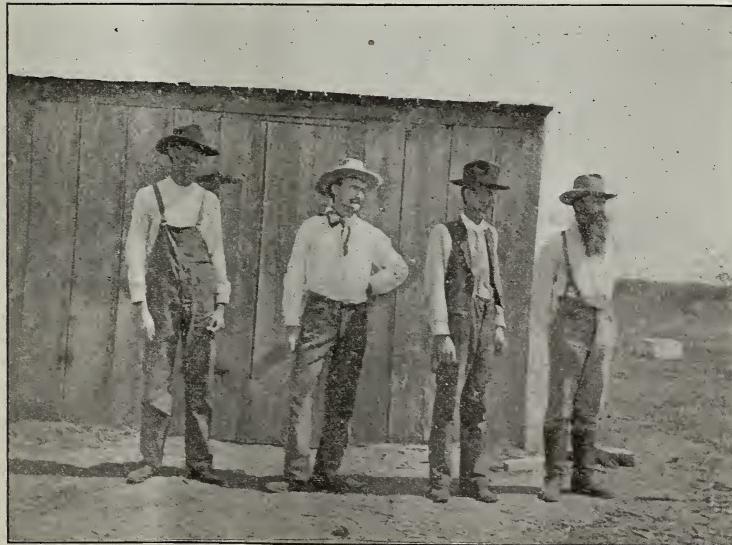
As Mr. Edwards and I neared the home of Mr. Bunting, I saw at once the secret of his success. Right along one side of the

my pocket kodak and took a snap shot, and the result is shown in the next cut.

Many and many a time have I run into splendid bee locations, and have seen bee-men fairly buried in a honey-shower, but who were not ready to take the honey in



"THEY DO NOT PROPOSE TO BE CAUGHT NAPPING."



"MR. BUNTING AND HIS HELPERS STEPPED OUT IN FRONT WHILE I SNAPPED THE KODAK."

yard there were stacks and stacks of supers piled up and filled with empty combs, ready for the honey-flow. They did not propose to be caught napping; and to give you an idea of those piles of supers I whipped out

any thing save barrels, soap-boxes, and "any old thing." Well, these men seldom get a good crop of honey; and what they do get is hardly fit for market.

As we (Mr. Edwards and I) went into

the yard, having hitched our broncho, we met Mr. W. J. Bunting, and, a little later on, his brother, W. D. Bunting, who is the bee-keeper, and who, as I have said, has the reputation of being the most extensively engaged in the business of any one in the county. A little later on we went out into the apiary, located out in the open, in the sand, without a sign of shade except shade-boards. At this home yard there were between 130 and 140 colonies with a bee-range of one whole square mile, or 640 acres. Mr. Bunting has bought this mile around outright; he does not, therefore, as he says, expect any one to come in and divide up the profits of this apiary. The rest of his colonies are located on other square miles that he leases; so, taking it all in all, Mr. Bunting is shrewd enough (and it is an honest kind of shrewdness) to see that he has a bee-range for all his bees that is not encroached on by any one else. No wonder he gets the honey.

While we were talking we stepped into a one-story building, about 10×20 as nearly as I can remember, in size. As it so seldom rains in this portion of Texas during the bee season, a larger structure is rendered unnecessary. In this small building the Bunting boys do their uncapping and extracting. While we were near the building I requested Mr. Bunting and his helpers to step out in front while I snapped my kodak. The result is before you.

The man at the extreme left is W. D. Bunting; then next in order are W. J. Bunting, F. W. Miller, and D. M. Edwards. The latter will be recalled from our large picture in our previous issue, page 751.

The Bunting boys, while expert bee-keepers, are also expert with the rifle. They have a fine pack of hounds; and whenever they require a little recreation they go out for a hunt. Game is plentiful and the shooting good, and I was urgently invited to come out some time and go hunting. This was tempting, for I enjoy this kind of sport; and some day I hope I can go among our bee-friends, not only armed with a kodak, but with a good shotgun—the first named to shoot my bee-keeping friends, and the last to shoot at (not necessarily to bring down) any wild game in that country.

I had hoped to present in this issue some views of some of the principal honey-plants of this remarkable bee paradise; but as my space is already taken up, I shall have to defer doing so until our next issue. After that I will describe through two or three numbers another paradise of bees and bee-keepers in Arizona. But this paradise is also already overstocked. But, more anon.

WAX-PRESSES.

BY F. A. GEMMILL.

I observed with much pleasure in the Aug. 1st issue of GLEANINGS that you had illustrated and also listed the new Root German steam wax extractor, or press,

This machine, no doubt, is the result of your experiments with the various methods in vogue up to and since the publication and illustration of the articles on the subject of wax-extractors in GLEANINGS for April 1. As stated in correspondence with you at the time the articles appeared, I fully intended commenting on them, my own contribution included; but for want of time I did not manage to do so.

I will merely state now, in this connection, that I was quite sure that the best machine had not, up to the time mentioned, been produced, and had in mind something of my own, the principle being somewhat similar to what you now present; but whether it would be round, oval, square, or otherwise, I had not decided; but it was to combine the very important feature of strong pressure, which I see you approve. Do not, however, imagine you have stolen my thunder, Mr. Root. I am not yet an inventor, but merely one who has taken advantage of the suggestions and improvements of others.

I am, as you are aware, particularly interested in this branch of apiculture; and as I wish to show you and others how much I appreciate the new article, I am going, without delay, to experiment with one as soon as you can ship it to me.

I am quite satisfied that high pressure, while the mass is still in the machine, no matter whether melted by steam or boiling water, is the best method, all things considered, when such pressure can be brought to bear on a *good quantity* of the refuse at one time.

I need not here enumerate the reasons, as no doubt you yourselves are quite satisfied, or else you would not have gone to the expense you have done to manufacture something you have proved a good article, and which, in my humble opinion, will prove a great boon to bee-keepers generally.

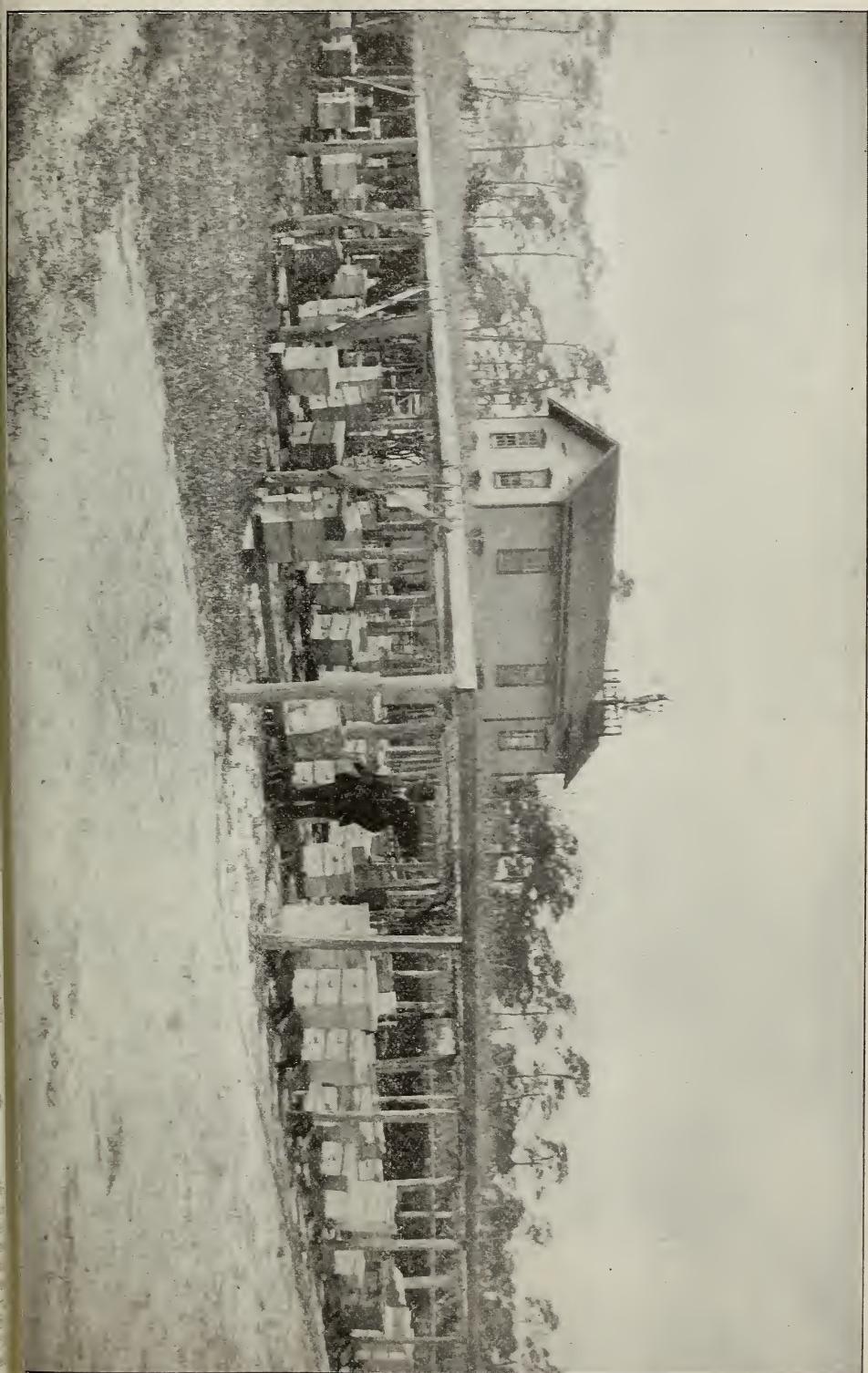
On receipt of your press I will experiment with slumgum from the Boardman solar wax-extractor, and also from refuse which has been through my late hobby, the so-called Hatch-Gemmill press, and in every other way that I think will be of benefit to myself and the enlightenment of my brother bee-keepers living under any flag, particularly of America, Canada coming first, of course.

Stratford, Ont., Aug. 10.

OVERHEAD GRAPEVINE SHADE FOR THE APIARIST.

BY T. M. ADAMS.

I send by to-day's mail a view of my apiary and honey-house. It may be out of the common line to your readers to see bees shaded by scuppernong grapevines. The grape-arbor is 80 x 110 ft., 7 ft. high, and posts set 10 ft. apart each way. The hives stand in rows facing each other 10 ft. apart, with a walk at the back of each hive, 6 ft. wide. I use a wheelbarrow after the style of the Daisy, but it has two wheels instead



of one, to overcome the danger of turning over. I use an incline into the honey-house, so I do not have to lift my honey. I have 112 hives in the garden. T. M. ADAMS.
Oak Hill, Fla.

[Somewhere about thirty years ago A. I. Root had high gravevine-trellises, something like those shown in the accompanying engraving; but these were subsequently abandoned for smaller ones, one trellis in front of each hive. But in Florida, the land of sand and sunshine, I should suppose that overhead trellises would be just the thing for the comfort of the apiarist as well as that of the bees.—ED.]

DEVELOPMENT OF THE QUEEN.

From the Egg to the Hatched Queen.

BY DR. C. C. MILLER.

How long from the time the egg is laid till the larva hatches from it? How long from the laying of the egg to the sealing of the cell? How long from the laying of the egg to the emerging of the perfect queen? These are questions of interest, and at least one of them of much practical importance. There is considerable variation in the answers to the questions; and it is a little strange that, in comparing present views with those of fifty years ago, the time for the hatching of the egg has been lengthened, while the time for the emergence of the queen has been shortened.

In the *Am. Bee Journal* for 1861, p. 11, it is said, "The larvae emerge from the eggs in the course of from 40 to 60 hours after these are laid— $1\frac{1}{3}$ to $2\frac{1}{2}$ days. On p. 43: "Gundelach says that, in one instance, they were hatched within 24 hours after being laid. Berlepsch says he has known them to remain unhatched in the hive for 48 hours, and in one case more than 72 hours." Cheshire says the eggs hatch after 3 days. Cowan and others give 3 days. The A B C says "about 3 days or a little more."

A good many incidental observations lead me to believe that 3 days can not be far out of the way, and I can not understand how one or two days could have been believed right. It is not difficult to understand how a much longer time might occur, for there is good testimony to the effect that bees have kept eggs several days or a week longer than the usual time without hatching. It seems that something more than heat is required to hatch a bee's egg; and until the necessary attention is given the egg will remain unchanged, just as a hen's egg remains unchanged until the hen begins sitting on it. But under normal conditions the generally received three days of the present time may probably be accepted with safety.

"How long from the laying of the egg to the sealing of the cell?" Gundelach says, "Eight days elapse from the time the egg is laid till the cell is capped" (*Amer. Bee Journal*, 1861, p. 11). If we allow 3 days

in the egg state, that makes 5 days of feeding. Cheshire says, "after about 4 days of feeding." Dadant's *Langstroth*, p. 254, gives 6 days of feeding for the worker, and I suppose the same for the queen. Add to that 3 days for the egg, and we have 9 days from the laying of the egg to the sealing of the cell. Between 9 and 10 days is given in the A B C. Cowan says 8 days. Cook gives 8 days in cases of normal swarming.

The most important of the questions, from a practical standpoint, is, "How long from the laying of the egg to the emerging of the queen?" In the *Am. Bee Journal*, Vol. I., p. 199, in a chapter of the able series of articles on the Dzierzon theory, by the Baron of Berlepsch, after detailing some experiments he says: "These experiments show that the opinion generally entertained, that the queens emerge between the 17th and 18th day after the eggs are laid, is correct." The time of writing this, however, antedates the publication of the *Journal*, 1861; and elsewhere in general throughout the volume 16 days is accounted the proper time. Indeed, on page 266 Dzierzon gives a definite case in which the time was only 15 days. Sixteen days has of late years been accounted the orthodox term, I think, in general, in all the books excepting Cowan's, which gives 15 days. This year I thought I would refer the two latter questions to the bees, so as to get a positive answer in at least one case. July 18, at 10 A.M., I took from No. 85 its brood, leaving in the hive foundation and one comb containing some sealed brood, this comb having been kept for more than a week where there was no possibility of a queen laying in it. Four days later I gave this comb to No. 35, after having removed from No. 35 its queen and brood. July 26, at 10 A.M., when the oldest brood could not have been more than 8 days old, I found 20 sealed queen-cells on the comb, and seven unsealed. The proof is clear and positive that these 20 cells that were sealed contained larvae not any more than 8 days from the laying of the egg. It is reasonable to suppose that the 7 unsealed cells contained younger larvae. Desiring to save all the cells, I did not wait till any of the occupants were quite 15 days old from the laying of the egg, but opened the hive at 9:45 A.M., Aug. 2. I was doomed to disappointment, for seven young queens had already emerged.

In this case there could be no question. The cells were sealed in 8 days; and allowing three days in the egg, there were 5 days of feeding; and the queens emerged 15 days from the laying of the egg. These figures agree with those of Mr. Cowan. It should not for a minute be supposed that they admit of no variation. But it is probable that, under normal conditions, they may be relied upon as coming as near the average as any thing that can be given. The question may arise, why it is that 16 days for the full development of a queen has so generally been agreed upon. Many of the observations have been made, not

upon full colonies, but upon nuclei. Development will be retarded in nuclei. In the *Am. Bee Journal*, Vol. I., page 143, father Langstroth reports a case in which a queen in a nucleus was 21 days in coming to maturity. In my early days of bee-keeping I knew no better than to have queens started in nuclei, and I had cases like that of father Langstroth. But in full colonies I have had many, many incidental proofs that 15 days was the limit. Ought we not to change our belief from 16 to 15?

Marengo, Ill.

[I had not a little difficulty in understanding your experiment; but finally Mr. F. W. L. Sladen, of Ripple Court, England, who is visiting us now, after studying on it a while finally got your meaning. You leave out one or two important points that left us, for the time being, in the dark. As we understand it, No. 85 was a normal colony with a laying queen; and this one comb containing some sealed brood was put into the hive for the queen to lay in. After she had been laying in it for four days, you gave it to queenless colony No. 35. Eight days from that date you found plenty of queen-cells. All of this is now plain.

The only criticism I have to offer is that you are relying for your data on one experiment only, and I should not think it would be wise to change the time from 16 to 15 days until other experiments have been made and are to the same effect.—ED.]



PREPARING BEES FOR WINTER.

"Hello! what are you doing with the bees this morning? I supposed all work with them was over for this year."

"In this you are mistaken, Mr. Smith; for, in my opinion, to reap the best results in wintering bees, September is the month in which they should be prepared for winter. This gives them a chance to get their stores for winter placed just where they wish them, so that, by the latter part of October, they are ready to go into that quiescent state which is always conducive to the best results."

"Well, this is something new to me, as I always thought November would do very well as to time to fix the bees for winter. But what do you do now by way of preparation?"

"The early preparation consists in opening each hive and seeing that each colony has a good queen, plenty of bees, and, most of all, plenty of stores."

"How much do you calculate for stores?"

"I allow 25 to 30 lbs. for each colony, which should be in the hive from September 10 to 25."

"But suppose some colonies do not have that much."

"If there is not so much as this, feeding must be resorted to; and if we have to feed, it should be done in September, surely, in order that the bees may cap it over before cool or cold weather; for unsealed stores often sour and get thin during winter, thus causing disease. Multitudes of bees are lost each year, where feeding is put off till October and November, by being obliged to eat poor thin stores, this causing bee diarrhea on account of the bees not being able to hold their feces, because they can not evaporate all the water out of their food, it being so thin."

"But suppose the bees are still getting honey from the fields."

"In places where fall flowers abound, so that the bees are storing at this time of the year, of course they should need no feeding if the apiarist manages rightly."

"Do you think if one needed feeding all would?"

"This is to be ascertained by looking them over, as you see me doing. If I find some colonies are heavy with stores while others are light, the light ones can be fed by taking from the heavy; and if there are some light in stores after so equalizing, then we feed what still remain without a sufficient supply."

"Having all fixed as to stores, etc., what next is to be done? I wish to learn."

"The next thing to do is to put on the quilt, where such is used, and over this the sawdust cushion, or whatever packing material is used, thus tucking them nice, snug, and warm for winter."

"Do you use common enameled cloth for quilts?"

"I do not during winter. Some so use, but the most of our practical bee-keepers prefer some porous substance, like woolen blankets, pieces of old carpet, or something of that kind. For colonies to be left on summer stands, I use chaff hives, which chaff is left on in the hives both winter and summer. Over the tops of the frames I prefer a quilt, as just spoken of, and on top of the quilt a cushion two or three inches thick, made of common factory cotton cloth, filled with cork dust if possible; if not, then filled with dry basswood sawdust. Such cushions seem to keep the bees in better condition than any thing else I am acquainted with. The cork dust allows the moisture to pass up through it and out at the top of the hive, while the basswood sawdust will absorb nearly its bulk in water, so that either keeps all dry, warm, and nice."

"Do you do any thing else by way of preparation?"

"When winter sets in, a board about 8 or 10 inches wide should be set up slanting from the alighting-board to the hive, in front of the entrance, so as to keep out snow and cold winds, as well as to shade the front of the hive, where the hives face south, as they should during winter, so the bright

rays of the sun shall not entice the bees out when it is too cold for them to fly."

"Do you winter all your bees outdoors?"

"No. I prefer to winter a part of the bees in the cellar, for I like the idea of 'mixed wintering,' as by this plan no extreme loss is likely to occur; for a winter which is severe on the bees out of doors is generally good for cellar wintering."

"At what time do you set the bees in the cellar?"

"Somewhere about the middle of November. At any time between the 10th of November and the 1st of December, when the hives are dry, and free from frost, I set them in. If they have a flight along about this time I set them in the next day, if it does not rain so the hives are wet; and I find that this can be done, even if the weather is quite warm, much better than it can on a cold morning when the hives come up from their stands with a jar from having been frozen down."

"Do you give each hive a separate stand when in the cellar, or set them on a plank which will hold several hives?"

"Neither. A cellar stand is made by nailing four pieces of six-inch boards together so they shall be of the right size for a hive to rest on. This raises the first hive six inches off the cellar bottom, and away from the damp air which is generally found right at the cellar bottom. The first hive is set on this stand, when hives are piled on top of the first till the floor is reached, so that each stand holds from three to five hives, according to the depth of the cellar. In this way the cellar is filled (if I have colonies enough), except a passageway through the center to the back end, through which I pass every two or three weeks to see if all is right so far as temperature, mice, etc., are concerned. Otherwise they are left undisturbed during the winter."

"At what temperature should the cellar be kept?"

"Here practical bee-keepers differ; but I have had the best success with a temperature of from 43 to 45 degrees, or as near that as can be had. With a cellar in a bank, separate from any building, the keeping of the temperature at this point is quite easy; but with a cellar under a room or building it is not so easily done, for the changes from the outside have more effect on the interior of the cellar than they do where the cellar is wholly under ground in a bank or side hill. There are other things which might be said on this wintering subject; but with your consent we will leave them till December, when I am not so busy, when, if you will come over, we will talk them over more at length."

[This is good orthodox advice on wintering, and the average person will not go far amiss in following it. The four pieces nailed together to raise the hive off the cellar bottom make what we call a hive-stand. The same can be used outdoors as well.—ED.]



BEE-STINGS AS A CURE FOR RHEUMATISM.

Along in the '70's I had fever and ague four years in succession, followed immediately by typhoid fever three years in succession. The third attack was very severe, and was combined with brain fever. It left me a wreck, unable to read, write, think, or work. Then when I got up from the last attack of typhoid, rheumatism set in, and I doctored for some time for it without relief. Being unable to work, or occupy myself mentally, I bought a hive of bees and spent many days sitting over it, taking out comb after comb to watch the bees at work and become acquainted with them. I do not think it was good for the bees, and it is needless to say that I became thoroughly acquainted with the business end of a good many of them, and thereby hangs my tale. I began, as soon as my head would allow it, to read your A B C book and GLEANINGS, and soon had calls from my neighbors to handle their bees for them. The result finally was, that my rheumatism left me, its poison being counteracted by that of the bees, and I had no return of it for eight years. By that time I had removed to Wisconsin, and dropped my bee work. The law of entire renovation of the system once in seven years removed the bee-poison from my system; and I then, having exposed myself to damps in a cave I was exploring, had another attack of rheumatism. This I cured by catching bees from the flowers on the lawn, and making them sting me on the wrists. I was then free for six years more, when I again had an attack which I cured in the same way.

I have not taken to bee-keeping since I entered the ministry, 14 years ago, being afraid that my love for it would make me spend too much time with them. But as I have more frequent touches of rheumatism as I grow older, I concluded I had better spend some time with bees than to nurse the rheumatism in bed for a week or two at a time. My theory in the matter is, that one needs to be constantly inoculated with bee-poison, to prevent the rheumatic poison from getting a hold.

When I told my doctor that bees had cured me, he said he had read of that cure in medical journals, but thought it a humbug. I have learned since that in Russia it is common to cure rheumatism with bee-stings. Of course, it may not be safe for every one to use this remedy; but I find it invaluable for myself; and several others who have used it at my suggestion have found relief by it.

L. P. HOLMES.
Sussex, Wis.

[Many thanks, dear brother, for your excellent testimonial in regard to the benefit

of the bee-sting poison. Now, while we have had quite a few communications, pointing almost as plainly to the fact that the poison of the bee-sting cured the rheumatism, is it not possible that the disease disappeared of itself? or that your change of employment, enthusiasm in studying bee culture, etc., had something to do with it? I should be very glad indeed to have it proved that bee-sting poison is such a valuable medicine; but I am sure you will excuse me for being slow to accept this while we have so many remedies for almost every thing. I hardly need mention Electropoise, absent healing, etc. Bee culture is certainly a healthful occupation, and very likely it is beneficial to many to *get stung* now and then. May God help us to get at the real truth in regard to all these wonderful things that are going on around about us.—A. I. R.]

INTRODUCING TO CROSS HYBRIDS THAT ARE DISINCLINED TO ACCEPT A QUEEN; CONSTRUCTION OF THE GERMAN WAX-PRESS.

What is the best way to introduce a queen in a cross hybrid colony that has been queenless some little time, and refuses to start cells, and is positively queenless, with no laying workers?

I never saw queens disappear so mysteriously, or bees to swarm regardless of queen-cells and conditions of the brood-chamber, as the past season, with as good a flow of honey. The average nearly reached the hundred mark.

For the benefit of the slim-pocket bee-keeper who wishes to tinker up a home-made wax-extractor, could you not give a better description of the construction of the wire basket and the apparatus that carries the wax to the outside of the machine?

Mohawk, N. Y. C. R. MORTS.

[Ordinarily, if a colony refuses to accept a queen we naturally conclude that the bees have something which they regard as a queen. It may be a small virgin, or it may be a fertile worker. If the last named is present you will be likely to find eggs, and in some cases two or three of them in a cell. But if you *know positively* that the colony is queenless, and that it has no virgin, then I would take away every bit of brood of every sort, and keep it away until the bees fairly howl in distress. At the end of the second or third day give a smudge of tobacco smoke, and introduce a queen by the candy plan. But in 99 cases out of 100, where a colony refuses to accept a queen I should conclude that they were not queenless; and in any case the best advice I could give would be to give them a frame of unsealed larvæ or eggs. If they are certainly queenless they will start building cells. I never yet knew of a case where they would not do so under such circumstances. If they start queen-cups, let them alone and let them rear their own queen. I remember one colony once to which, for a matter of experiment, we introduced three

different queens, or attempted to do so, and each one of them was killed as soon as they released her. We finally gave them a frame of unsealed larvæ, when they started to build cells; but, strangely enough, after they reared a queen they killed her, because we found her balled and dead. We then gave the colony another frame of larvæ, and this time they raised a queen. Such colonies are very rare, and ordinarily it does not pay to fuss with them.

Regarding the disappearance of queens, this is something that happens very often in the fall. After a heavy season's duty, good laying queens will sometimes be found missing. They possibly use up their vitality, and die a natural death. In the case of colonies with virgin queens, the weather is usually so inclement that they do not get out; or if they do, they do not find drones. If they do not become fertilized, the bees are apt to destroy them.

Regarding the wax extractor, or press, it would be necessary to prepare an engraving showing the internal construction of our machine. We will have such a one prepared, and show it to our readers later. But it is doubtful whether the bee-keeper with a "slim pocket," unless a very good mechanic, could make a machine on the German plan. His better way is to make a Hatch-Gemmill wax-press, as described on p. 279, April 1st GLEANINGS, and render out his wax in an old iron kettle in connection with hot water. The Gemmill press can be made by any one.—ED.]

DO BEES SWARM WHEN THEY HAVE UNSEAL-
ED BROOD? QUEENS BEING MATED
FROM UPPER STORIES.

1. Do bees ever swarm when there is *only* unsealed brood in the brood-nest, provided there is plenty of room for the bees above?

2. What is given as the reason for young queens intended to be mated from upper stories, as described in the A B C book, to "turn up missing"? Is it that the queens do not find their way back? or is it because they are killed by the bees coming up from below through the zinc? If it is the latter, why not use wire cloth and a nucleus of young bees above that?

C. S. FRITSCHEL.
Waverly, Iowa, Sept. 4.

1. Yes, sir, 'e; but when a swarm is newly hived, and is given a frame of unsealed brood, *it is not as liable* to swarm out again as if it were put on a frame of sealed brood or a frame of honey with starters or empty combs. I have had swarms repeatedly come out again after I had hived them, even when the hive contained unsealed brood. When a swarm persists in coming out thus, I would hive it and take it down cellar until the bees have a chance to "cool off." Then next morning set them in an entirely new location, and let them begin flying quietly before the usual hours for swarming.

2. Both of the reasons that you suggest

may have something to do with the matter, but the second one more so than the other. We, however, are making the plan work successfully by the use of wire cloth between the upper and lower stories instead of perforated zinc. Further particulars are given on p. 756 of last issue.—ED.]

HONEY (?) FROM CORN.

Mr. Editor:—In GLEANINGS, page 702, it is denied that bees can gather any honey from maize (Indian corn). If only the blossoms are considered, this may be true; but how about the sap? Unless my imagination is very much stronger than my judgment, the drops which are to be found in the morning along the edges of the corn leaves are decidedly sweet when the weather has not been too wet. That the weather here has been very wet is perhaps the reason that my bees have neglected the corn. Last year they crowded upon it during August. It is well known that much sugar (glucose, is it not?) is produced by the maize, and also that many plants give off sugar from their pores. Some plants of sultana, after standing in the dry air of our dining-room last winter, had the edges of their leaves fringed with little stalactites of sugar, about a quarter of an inch long.

All the above leads up to what I wish to say—that I can not see why bees should not be able to gather sweets from maize.

GEO. A. BATES.

Hightwood; N. J., Sept. 5.

[But, even though those drops along the edges of the corn leaves are sweet, it could not be called honey or nectar.—ED.]

A GOOD SUGGESTION ON THE USE OF PASTEBORD FOR MAILING-CAGES FOR QUEENS.

Referring to the occasional failure of bees to gnaw the pastebord from shipping-cages (page 669) I would suggest that this may be almost always prevented by simply touching the perforations with a little honey. This especially should be done if no moisture penetrates about the perforations from the candy within. I have not yet had a failure when this precaution has been taken.

Last autumn one of a number of queens received through the mails was thus imprisoned ten days after being placed in her new home. The bees would not (or, more likely, could not) tear away the dry pastebord over the candy; yet this queen, to my surprise, instead of dying, as all her attendants but three had done, proved to be one of the most prolific of the lot, her bees storing over 70 pounds of surplus honey in June last.

J. F. S.

Aikin, Md., Aug. 20.

BEEs THAT WILL SPLIT RED-CLOVER CROLLA-TUBES.

I wrote you the fore part of last week in regard to the honey-flow here. Well, the flow has at this date not abated in the

least. I believe more honey came in on the 20th and 21st than in any other two days yet. They are working now on sweet clover and white, and just rolling the honey in. But I think still, as I said in my previous letter, that the bulk of the honey, until now, has been made from red clover. The bees would alight on a red-clover blow, and, by force, push their heads down to the honey by splitting the petal clear down to the nectar. I have seen them do this every time I have visited a red-clover field. Last year was the first time I ever saw it done; but no black bees were to be seen on red clover here. CHAUNCEY REYNOLDS.

Fremont, O., July 22.

[This splitting of the clover-tubes is something unusual, or at least I do not remember to have read of a case of it before. Has any one else observed it?—ED.]

A SIMPLE METHOD FOR DETECTING GLUCOSE IN SYRUPS.

Mr. Root:—In looking over your journal I see that you have had a good time up in Michigan and Texas. In your articles on sugars you speak of natural glucose in sugar. I was not aware that there was any kind of glucose but that made from corn. My object in writing to you is to give you a test for glucose. I can detect it if there is only an ounce in a gallon of molasses. The way I test molasses is this: Take half a tumbler of water and one teaspoonful of the molasses and stir it up thoroughly, then add, say, one-tenth of a teaspoonful of tannin, or tannic acid as it is sometimes called. If there is any glucose it will turn the mixture black, and I suppose it will do it in honey. In the manufacture of glucose they have to use sulphuric acid to separate it from the corn. They get rid of all the acid they can, but there is always enough left to tell the tale. Try it on honey. I believe it will work.

H. HOUPT.

Birmingham, Ala., Sept. 2.

[If I understand chemistry rightly, there is a kind of glucose in natural honey, but it is not corn syrup, and its general character is very different from the artificial stuff. I am greatly obliged to you for your recipe for testing glucose in honey. I have no doubt it will work with honey just the same; for if tannic acid shows the presence of sulphuric acid, then it will show it in honey as well as in syrup.—ED.]

POROSITY OF LOG GUMS.

The old-fashioned log gum was a hollowed-out section of a log (not a section of a hollow log with a board for a cover nailed over the top). Thus it will be seen the grain in the top of the hive ran up and down. The fact that bees did well in these old clumsy hives, particularly as regards wintering, was due to this very fact of grain running up and down. Reidenbach, in *Pfälzer Bienenzzeitung*, makes the assertion that any ordinary board, such as our ordi-

nary bee-hives are made of, practically prevents all exchange of air, paint or no paint, while the top of a log gum is porous and allows an exchange of air. To prove the ventilating quality of the log gum he made the following experiment: He took a round piece of beech wood, 2 inches long, and cemented a small glass funnel to each end. By blowing into the end of one funnel the air could be felt coming from the end of the other, and a lighted candle could be blown out without difficulty. This experiment is pretty good proof of the porosity of timber, grain running lengthwise. If we assume that the propolis with which all old hives are thoroughly glazed and coated over cracks sufficiently during winter, the ventilation of the log gum would be assured. Reidenbach failed to make a similar experiment with the side of a log gum, but simply asserts that air does not penetrate it. It would not be difficult to cement the funnels to a straight board, one on each side exactly opposite another; then blow into the funnel on one side and note the effect on the other. If it is true that air may be forced through timber with grain running lengthwise but not crosswise, as in ordinary lumber, then paint can not play a very important part in the wintering problem of our bees, not taking into account the gluing-up of the interior of hives by the bees.

Naples, N. Y.

F. GREINER.

[I have read somewhere of similar experiments—how one could force air from one end of a log to the other; but I do not recall the details. But now the question naturally arises, "Would the propolis in the old log gum crack sufficiently during winter to allow of the escape of the moisture up into the wood?" I should have my doubts.—ED.]

THIN AND EXTRA-THIN FOUNDATION FOR BROOD-NEST.

Mr. Editor:—Having been experimenting with extra-thin surplus foundation for brood-combs, I am able to give an additional fact in connection with this subject. This has been an exceedingly warm season—day after day continuing hot. The frames of foundation were placed at the outside of brood-chambers, and in the second story of comparatively weak colonies, with hives well ventilated. It required much care and attention to produce perfect comb. In two instances foundation broke from the weight of bees before time to fasten it thoroughly. I succeeded, however, in securing very fine comb, filled and capped to the bottom-bars; but I am of the opinion that, for practical use, ten sheets to the pound hits the nail about square on the head. One colony, weak in the spring, has built up 21 such extra-thin frames in the surplus chamber, nicely capped them, and is now filling a 32-section case of sections. The average bee-keeper—farmer—would not, nay, could not, give the necessary time to make extra-thin surplus a success. With nothing to do but

care for my bees I have concluded that the difference between ten sheets to the pound, and extra thin, does not compensate for the extra care required to succeed.

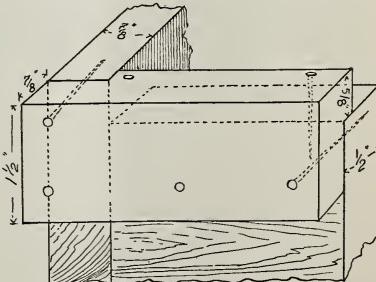
This season has not been considered extraordinarily good here; yet many of my colonies have exceeded 100 well-capped sections, and I hope some may crowd the 200 mark before the close. W. W. WHITNEY.

Kankakee, Ill., Aug. 19.

[Your experiments practically confirm our own, and I believe that your conclusion, so far as it relates to the average bee-keeper and farmer, is about correct; namely, that foundation as now made, running ten sheets to the pound, is thin enough. At the same time, if we succeed in carrying out what we have in our mind's eye—an extra-thin foundation, with natural bases having very thin delicate wires incorporated in it, about an inch apart—we shall be able to utilize a lighter weight of foundation, and which, I believe, in the end will be cheaper, per sheet, than the heavier grades we are now using; that is to say, it is not necessary to use wax to get strength when a much stronger article with less cost can be utilized; viz., fine iron wire. The problem now is, how to incorporate this delicate wire, about No. 40, in the septum of natural-base foundation.—ED.]

ANOTHER HIVE-RABBIT AND HAND-CLEAT.

GLEANINGS of Aug. 15 came yesterday. The hive construction used by Mr. Schaeffle, page 680, attracted my attention. Mr. Thos. Chantry, of Meckling, S. D., told me of a plan used by H. P. Robie, of South Dakota, which (for those who *will* make their own hives) has great merit, as it provides a non-warpable rabbet and hand-hold combined. Its construction will be apparent from the cut.



We had a fair honey crop from the second crop of alfalfa, and bees are doing a little on sweet clover and red and white clovers.

It seems to me that Harry Howe's capping-box (pages 679, 680) is rather small. I have one which just suits me, 2x3 feet in size.

E. F. ATWATER.

Meridian, Idaho, Aug. 19.

[This idea is a very good one—yes, it is excellent; and it may be well for the manufacturers of bee-supplies to give it consideration. If enough of our subscribers like

this form of rabbit, we might think seriously of adopting it some time in the future. It accomplishes a double purpose, in that it makes an excellent hand-cleat for lifting the hive, and at the same time provides a very strong durable rabbit.

Mr. Atwater is a young bee-keeper, alive and progressive, who left South Dakota for a climate more congenial to his health. I had the pleasure of meeting him at another paradise for bees, Meridian, Idaho, on my recent trip, and shall have occasion later on to introduce him more formally to our readers.—ED.]

BRICKS FOR HIVE-RECORDS ; HOW TO MAKE FEEDERS OUT OF TOMATO-CANS.

I use bricks for weights on my Dovetailed hives. The position of the brick lying on its side, bottom, or end indicates certain conditions of the hives and supers. A glance over the apiary shows what is to be done. I use the Alley drone and queen trap for catching the queen when swarming in my home apiary. I prefer it to clipping the queen.

A good home-made feeder for Dovetailed hives can be made out of 3-lb. peach or tomato cans. Cut the top off so as to fit a super; fit a rim of tin about an inch wide over the can, first placing a piece of cotton cloth over the can. Invert it over the brood-frames after filling, placing an empty super and cover on.

I am getting from 15 to 20 lbs. of water-white honey with snow-white capping to each colony of bees, from a wild plant that is common to the Red River Valley in this country. The honey is equal to the best, and is in good demand in the home market.

N. P. ASPINWALL.

Wahpeton, N. D., Aug. 10.



B. M. H., N. C.—It sometimes happens that comparatively well-marked Italian bees behave and act very much like blacks or even hybrids of a darker color. It is even possible to have three-banded Italians, and yet have them the worst kind of hybrids in other respects. For example, a five-banded queen mated to a one or two banded hybrid drone might give three-banded Italians, but bees that are fearfully cross. This has happened in my own personal knowledge; and that is one trouble with four and five banded bees, that it is not always possible to tell whether one has pure Italian stock when he breeds from them.

You can put combs of honey in the upper story and have the bees empty them out; but when doing this it is advisable to break open the cells with a curry-comb or wire hair-brush.

J. W. S., Miss.—A queen balled may live a few seconds or several hours. Sometimes the queen dies of suffocation, and at other times she is stung by some one of the workers in the ball. I have known of cases where a queen has been balled probably all day, and was still alive when released; but in that case the ball was usually small. In other cases I have seen queens that were balled and were stung to death inside of a minute. It is always advisable to get the queen out of the ball as soon as possible. The best way is to use a smoker, blowing light whiffs on the ball of bees until the queen is released. Another way is to drop the ball into a pail of water. As soon as the queen is released, take her out of the water and blow the drops off from her. As a general rule I would use the smoker.

H. M. D., N. C.—From what you write, it is evident it would have been better if you had attempted to transfer only one colony at a time. However, the work is now done, and it is now advisable to make the best of things. Before you attempt to introduce a queen into any of the hives, make sure that such hives are queenless. If there are no eggs, larvæ, nor a larva in any suspected hive, give a frame of such from one of the other hives, and then wait two days. If they build cells on this frame of eggs or larvæ, then you may be sure they are queenless, and you can then introduce a queen with safety; but do not attempt it otherwise. Yes, you can introduce queens from now till cold weather sets in; but the sooner the bees get a queen, if they do not already have one, the better. You can leave foundation or combs in a hive; but it must be absolutely bee-proof and moth-proof. Combs will be perfectly safe if they are shut up tight, either in a room or in a box, or even in a hive.

D. W., Ohio.—As to the best way to pack 200 pounds of extracted honey for freight shipment, it does not require any different package for a long distance than a short one. Honey is shipped across the continent, or exported to foreign countries, for the most part in 5-gallon square cans or barrels. In the case of either package, and for a short or long distance, care should be taken to see that the package is of first-class material, and that it is well put together. We have frequently seen shipments of honey in 5-gal. cans badly damaged because the box was so poorly nailed that it came apart in shipping, or honey lost from the barrels because the hoops were not well driven down. Only last year a barrel which was made of first-class material came to us without a drop of honey in it, and one head gone, simply because the iron hoops were not driven down as tightly as they should have been. I think there is no choice of packages for a long or short distance so far as the shipping is concerned, there being only a choice with the shipper and the consignee. I presume, of course, you do not want glass packages, as these are not usually shipped long distances.



NATIONAL BEE-KEEPERS' ASSOCIATION.

OBJECT:—To promote and protect the interests of its members; to prevent the adulteration of honey.

OFFICERS:—E. R. Root, President, Medina, O.; R. C. Aikin Vice-president, Loveland, Col.; Dr. A. B. Mason, Secretary, 3512 Monroe St., Sta. B, Toledo, O.; Eugene Seor, General Manager, Forest City, Iowa.

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FEES:—Annual membership fee, \$1.00. Remittances may be sent here or to General Manager as above.

OUR subscription-list is larger than ever before in our history, and it is still growing at a rapid rate. The increase for months and months is the greatest we have ever known it. We desire to thank our friends for this liberal patronage. We are figuring on some pleasant surprises, and hope to present them a little later on.

THE reader's attention is called to the fact that we are now using a brand-new face of type. We have for some months back been trying to decide between a typesetting machine or continuing the use of hand type in the good old-fashioned way. After considerable investigation we have concluded that, for our purpose, hand type was the best adapted for our purpose.

DURING the Buffalo convention several of us made our headquarters at the home of Mr. Orel L. Hershiser, 301 Huntington Av. He is located within 20 minutes' walk of the Pan-American, and within one block of a street-car line. His terms are \$1.00 per day for lodging and breakfast; and any bee-keepers who yet expect to go to the big exposition will do well to put up with Mr. Hershiser, for he has a nice place.

I AM satisfied that, within ten or twenty years, the larger amount of honey will be produced west of the Mississippi. The advance of intensive agriculture will make bee-keeping less and less profitable in the East, and narrow it down to small apiaries. In the great West there is much of the country that can never be cultivated, but which will always yield plenty of honey from the natural growth of tree and plant indigenous to those localities. Then the irrigated regions are so rapidly increasing in area that bees can follow in the wake without in the least interfering with the agricultural interests.

OWING to the fact that we have just changed the dress of GLEANINGS we find it impossible to give a report or hardly a brief mention, in this issue, of the Buffalo convention, and of the joint meeting of the

American Bee-keepers' Association with the American Pomological Society. But I will say this: That both meetings were exceedingly enjoyable and profitable. At the joint session the fruit-men showed a decidedly liberal spirit toward the bee-men—so much so that it looks as if we do not need to argue the question any further, whether bees are necessary to the proper setting of many kinds of fruit. But, more anon.

WAX IN ORDINARY SLUMGUM.

HERBERT FREAS sends from St. Ann's, Ontario, some samples of wax and also some slumgum. Of the latter he says that one man sent him 20 pounds which had been squeezed with an ordinary hand press. From this with a screw press he extracted 7 pounds 2 ounces of fairly well-colored wax. His residue resembled plug tobacco, and had about the same odor, only not so much so, as one smoker put it.

This is only one out of many instances showing how much good wax has been thrown away as so much dross from the old processes of rendering. A good press intelligently used may earn its weight in gold.

A MYSTERY EXPLAINED.

IT will be remembered that, some little time ago, I reported that the bloom of the black-locust tree in Central California seemed to intoxicate or kill the bees, when the same bloom in Colorado would have no effect. After some little investigation it begins to appear that the dead and dying bees under the California black locust are due to the attack of the oriole, and not to the nectar in the blossoms. Mr. F. E. Brown writes me that this bird grabs the bee while it is partly covered with the petals of the locust blossoms, and then with a quick movement extracts the honey and drops the poor victim to crawl or squirm about on the ground. This clears up the mystery that was hard to explain, even on the basis of locality.

DISTINGUISHED VISITORS AT MEDINA.

WE have with us Mr. F. W. L. Sladen, of Ripple Court, England. He is one of the brightest and most intelligent bee-keepers in the British Isles. He is especially progressive, looking for that which is new and useful, and has made a trip to this country in order to study conditions of bee-keeping as they here exist. I expect to make further mention of his visit later. In the mean time I bespeak for him a most royal welcome from the American apiarists whom he may be able to visit in the brief time he may be here.

We have also had a visit from Mr. Udo Toepperwein, of San Antonio, Texas, and from Mr. G. F. Davidson, of Fairview, Texas. Both of these men attended the Buffalo convention, having been sent by their local State society as delegates to the big meeting. A little later on we had the pleasure

of a visit from Mr. and Mrs. Acklin and daughter, of St. Paul, Minn., also from the convention, and from Mr. Wm. Rohrig, of Tempe, Arizona, concerning whom I shall have more to say as I take up my line of travels. Mr. Rohrig had intended to attend the Buffalo convention; but owing to a railroad smashup he missed it by one day.

THE INTERESTS OF BEE AND PEAR MEN BEING HARMONIZED.

REGARDING the bee and pear-blight question in Central California, I am pleased to announce that many of the fruit-growers are coming to (or appear to be coming to) the conviction that the removal of the bees during the time the trees are in bloom will not materially abate the destructive effects of the pear-blight virus. It appears that the resolution passed by the bee-keepers in their convention, to move the bees out of the region of the pear-orchards during the time they were in bloom, required some ratifying action on the part of the fruit-men in filling out certain blanks. These blanks were laid before them some time ago, but nothing has been done. It is probably true that the pear-orchardists are not very sanguine as to the beneficial effects of the proposed removal, and many of them are fair men, and therefore disinclined to put the bee-keepers to this expense unnecessarily.

I talked with Prof. Waite (who, it will be remembered, originally declared the bees to be guilty), while in Buffalo, regarding this case. He was not sure the removal of the bees would bring about relief, owing to the presence of wild bees and numerous other insects that would, undoubtedly, spread the disease. He was sure, from extended experiments, that the bees were very necessary for the fertilization and proper maturing of the fruit, although he admitted that possibly conditions in California might be different. Prof. Waite is a careful, candid man, and a friend of the bees, and so much so that he deems it necessary to have a few colonies of them in his own pear-orchard, pear-blight or no pear-blight.

Taking every thing into consideration, it appears now there will be no conflicting of interests between the bee-keepers and pear-men; and it is hoped that the matter will rectify itself when the pear-blight disease loses its hold or "runs out," as we sincerely hope it may.

BEET AND CANE SUGAR FOR BEES; FURTHER FACTS.

SOME little time ago, in referring to the use of beet and cane sugar for feeding bees I stated that I had been told that some of the Western canneries in Central California would not use beet sugar in putting up canned fruit—that they demanded cane. I have made inquiries since that time, and find that I misunderstood my informant. What he did say was that the grocers had learned that their customers who were canning particularly specified *cane* sugar, say-

ing they did not want the beet, because, when they put up fruit with beet sugar, the fruit spoiled; but that when it is put up with cane, it kept all right. But it now appears that no grocer can tell whether granulated sugar, properly refined, comes from beet or cane; and that, furthermore, not even a chemist can make the distinction. But since printing the article on page 757, from M. R. Gilmore, Superintendent of the American Beet-Sugar Association, at the Pan-American, I would state that I have had a talk with that gentleman; and I also had an interview with the representative of the cane-sugar exhibits. Both assured me that, when granulated sugar was properly refined, no one, be he scientist or farmer, could detect the difference—that they were identical; that there were certain unrefined beet sugars that had an odor. Is it not possible and even probable that some of the grocers referred to on the Pacific coast have been buying this cheap beet sugar, with the result that their customers have complained, and have since demanded and insisted on having what they *suppose* is a better sugar—the product of the cane?

I also learn from the beet and cane sugar representatives that during the last eight or ten years there has been comparatively little beet sugar on the market, when I supposed that quite the reverse was true; but they estimated that, during the past year, perhaps half of the sugar came from beet; and that, in the future, probably a much larger percentage will be from that source, because that vegetable can be produced over much larger areas of country than the cane. I shall have to confess, therefore, that in the ten or twenty years that I *supposed* we were using beet sugar we were probably using cane in the majority of instances.

It has been stated that many British bee-keepers prefer cane sugar to beet; but this is probably due to the fact that some beet sugar that finds its way into the British markets has not been properly refined; but now with the modern methods I think we may safely say that it makes no difference whether we use beet or cane sugar, provided it is *properly* refined.

In this connection I might state that there are on the market some white sugars that are adulterated with grape or corn sugar. Such sugar, if given to bees, undoubtedly would cause trouble. Therefore it behooves one to buy only the best granulated sugar. Don't waste any time in trying to learn its source. If it is granulated, and the grains are crystal and free, not lumping together, it is fit for a king as well as a bee-keeper.

AN UNMITIGATED SHAME; MORE MONSTROUS TALES ABOUT THE PRICES ON HONEY.

IN our last issue I stated that there had been gross exaggeration as to the honey crop of the southern counties of California; but at that time the inflation buyers claimed a maximum output of only 500 cars; but now

they have boosted it to 2000. As I have before stated, there seems to be a combination which has induced some of the daily papers to circulate such reports right and left. These glib falsifiers even go so far as to say, "This year's crop is estimated at 2000 cars;"* that while the prices last year ruled at 8½ cents, they are now down to less than half that, and they will probably have to go lower; and, as if to add insult to injury, they further state that Honolulu honey is being poured into California, and from there it is being sent east.

Such stories have a strong tendency to unsettle the market; and the animus back of it all is very apparent. The Western "bears" are anxious, of course, to have the prices go down. They know the crop is light; and then when they get the producers under their thumbs, they propose, no doubt, to scoop up the honey at a low figure, and then hold it until it advances.

Moreover the Eastern buyers are being scared; and one man, whose honesty is above reproach, wrote, asking for my private opinion. He is a large buyer; and he says if these stories are true he would not dare to take on any more honey. But it is evident that there are some other men in collusion with the Western buyers who are anxious that these inflated yarns shall be scattered, because, forsooth, it will depress the Eastern market as well. If, for example, there were 2000 cars in California, and as much more of Honolulu honey, it would be perfectly clear that a large portion of it would have to go east. But no one need be alarmed over the matter. The facts are, I doubt whether 50 cars could be scraped up and sent eastward from California, all told. The large baking concerns have laid in quite a stock—probably all they will require; for when the price was down they snapped up every bargain they could get hold of; but now producers with business heads on them are holding the rest of the crop back.

For some weeks back we have been having men on the Pacific coast make a careful canvass; and it is very evident that the crop is light in comparison with those of some of the big years. I do not believe there is an aggregation of responsible producers anywhere in California who would guarantee to-day to deliver more than 25 cars; and as nearly as we can estimate they are holding back till these exaggerated reports have run their course, and the market seeks its natural level. It is most unfortunate that these canards should have been started at this time; for this is usually the *very* season for disposing of honey, and it may take months to correct the false impression.

The situation in the East, briefly told, is this: There is actually less comb honey produced this year than last; and what there is, seems to be of an inferior grade.

*In its best years, indeed the very best, the entire crop has not exceeded 500 cars, and this year was only fair, with less than half the bees to get the honey.

We have advocated in these columns repeatedly that bee-keepers are running too much for extracted honey, in the East; at least, good comb honey sells all the way from 2½ to 3 times as much as extracted for a like quality. The market on extracted has become a little unsettled, owing to aforesaid "bears" who not only love honey but are contriving to get it for nothing. Yes, we are even told that the markets of the East were being glutted; but some of our friends went into some of those markets to buy honey in car lots. Do you believe they could get any? There was not any in sight. To state the matter fairly, there is probably a fair crop of extracted honey of Eastern production; and the prices on extracted will, therefore, rule about the same as last year, for the same season of the year. Colorado honey is evidently being held until the market recovers itself from these conflicting statements. The crop has been lighter, and so far offerings that have been very meager are as high as or higher than a year ago. There is only a moderate crop in Arizona—about 25 cars all told; and this is likewise being held for the same reason. Texas, one of the big honey States, will show up well; but much of its product will be marketed at home, while Arizona honey, a large portion of it, will have to be sold in the East.

Returning to California, latest advices show that the season has been a flat failure in the central portions of the State. Our men can not find more than three car-loads all told. In Southern California it would be a large estimate to allow for 75 cars, if the general reports we get are true, and they come from men who are not inclined to "bulb" the market. I know they are very close to the truth, because I was through much of that territory myself, and perhaps two-thirds of the crop had been harvested.

I shall send copies of this statement, prepared this day, to all the large buyers whom I believe to be reliable and honest, and will seek their advice and help. In the mean time, bee-keepers themselves can help us by scattering the real facts. Send to your own buyer a copy of this journal, marking this. If you want another copy, write us, and we will send you another, or as many as you can use.

Later.—Since the above was written one of the best bee-keepers in California who was sent by a San Franciseo firm through the best honey country around Los Angeles, to get samples and quantities of honey, writes, after a careful canvass, that he could scarcely find all told 250 tons (20 cars), and that he is informed by reliable parties that the crop further south and east is very light. Moreover he finds that some of the buyers, in the papers, at Los Angeles, credit to a bee-keeper as many cars of honey as he has in tons. This may account for the outrageous exaggeration of the reports. Whether unintentionally or purposely, there is no excuse for it. As to prices, the honey is being held firm at 5 cents or more.



Children, obey your parents in the Lord; for this is right. Honor thy father and mother; which is the first commandment with promise; that it may be well with thee, and thou mayest live long on the earth. And, ye fathers, provoke not your children to wrath; but bring them up in the nurture and admonition of the Lord.—*Eph. 6:14.*

It was just about 25 years ago that I felt called on to commence these Home Papers you are all more or less familiar with. It was when I first began to strive to lead a Christian life; and some way I was impressed that there was more need of the religion of the Lord Jesus Christ right in the family and home circle than almost anywhere else. When we get to such a point of Christian living that we can carry it out thoroughly right in the home, among those we are well acquainted with, and whom we meet in close contact every day of the year, then we are prepared to carry our religion out into the world, and hold it up as a beacon light. So it seemed to me 25 years ago; and I do not know but I feel more strongly in this direction now than I did then. My greatest temptations are many times, as I have told you, right in my own home. Before the great outside world we are under obligations to be gentle, courteous, and kind. A man who does not hesitate to let his bad feelings come out before company—well, to put it mildly, everybody is pained to see that he is but little of a gentleman. We are expected to be courteous and pleasant before company. When one is somebody's guest he would be a brute indeed if he made a fuss because things were not just to his liking. Now, then, why is it we can not show this same spirit in our own homes when the outside world is shut out? I suppose a good many think it is everybody's privilege to do as he pleases when he is at home; and perhaps a good many do not know why their lives are not fuller of happiness and joy, when the great trouble is they give vent to their feelings when they are inside the walls of their own home.

As a rule, children are kind and affectionate. The baby loves his mamma, and he loves the rest of the children, and is loved in return; and sometimes I have sadly wondered why this love for the baby could not keep right on. As he gets older he discovers that he can be a bad boy if he chooses. Unlovable traits creep in. He gets to be selfish and domineering, and learns to have no mercy on his tired mother. I think this must be a good deal the result of example. I fear he catches on to such things when his parents think he is too young to notice or to see what is going on. If this is true, how much does it behoove us to beware how *any sort* of bad example is set before the baby! Sometimes the home is a model one, or almost so, until the children get to be old enough to go

out into the rough outside world and bring in corruption.

My earliest recollections are of being one of a family of seven. With God-fearing parents our home was, as a rule, a happy one. But poor father, work as hard as he might, found difficulty in making both ends meet for that family of nine, parents and children. When my older brother was strong enough to work he got a job in a pottery in our town. His employers were infidels. They had no fear of God in their hearts; and with their infidelity they cherished vulgarity and impurity. O dear father and mother, I would never let the money that is offered be any argument in letting a child go out to work where he may have his whole life poisoned by infidelity and impurity, for they usually go together. My brother was bright, quick, and strong, and they offered him pretty good pay. Very soon he felt it was a fine thing to ridicule the faith of his parents. He is now dead and gone, and, of course, I should speak gently in referring to his mistakes; but in this case I think it was rather the mistake of the father than of the boy. The first poison that ever entered my young heart in the shape of impure thoughts came from stories related to me that he heard his employers tell. How well do I remember how my gentle Christian mother tried to counteract the effect of these new associates! My brother earned quite a little money, and clothed himself nicely, and helped to reduce the expenses of the family. But, oh dear me! who knows the load of trouble and sorrow that followed him almost if not quite through life as the consequence of evil associates at his tender age?

I have just returned from the Pan-American. I took a hurried trip through Midway. I am not either sorry or ashamed that I did so. I should like to have the fathers and mothers of our land see some of the Midway attractions. Before one tent where there was a great crowd of people, a man up on an elevated platform was using all his eloquence to get the people to come in and see their show. Every little while he would say something like this: "Now, if there is any *Sunday-school boy* in this crowd he had better go home. This is not any place for him; but if there is a boy here who wants to be a man, and learn something of the world, we can do him good."

As soon as I heard it I turned around and walked away as fast as I could conveniently. I wanted to have that speaker and all that crowd know that I belonged to the Sunday-school, and was expected to stand with it as long as God gives me breath. It is not Midway alone that indulges in this kind of talk and philosophy. I heard it at Omaha, and I heard the same lingo at a street fair in the neighboring town of Akron. These fellows seem to think this kind of talk helps them to secure a crowd. If they should discover that their crowd was dispersed instead of being drawn into the show by such talk, they would probably

give it up. Well, the average boy must sooner or later meet these things as he gets further and further away from his home, and away from his mother's teachings. I know how sadly the Christian mothers and the Christian sisters feel to see the son and the brother drawn down and away by these foolish and silly arguments. Oh how great is the need of grace from the great Father above in dealing with these young boys!

By accident I have recently had a glimpse of one home where the boy ridiculed his mother and sisters when they sought to keep him away from evil. It is sometimes a serious question as to what the mother shall do. Many mothers, and perhaps most of them, feel it a Christian duty to punish the boy in some way for deliberate disobedience. But some of these boys (of recent date), after having their minds poisoned by these things I have mentioned, have thought it a good joke to resist the gentle mother when she attempted to enforce punishment. Can one think of a sadder sight than a boy who exerts his strength to resist the feeble and perhaps broken-down mother—broken down by hard work—when she feels it a Christian duty to insist on obedience? You may suggest that at such a time the father should take the youngster in hand. Well, I presume that, as a rule, most fathers do insist that the boy shall obey the mother. Why, the boy's very life, or something more than life, depends on his being *made* to obey. Suppose he wants to go off with a bad crowd on Sunday, and the parents give way because he is too big and stout to be easily brought under subjection. Of course, the parents may overstep the limits. The time comes when the boy will often leave his home if he can not do as he pleases; but my opinion is that such a state of affairs seldom comes to pass where the boy is kindly and firmly taught obedience in his earlier years. I well remember one youngster who told his mother fairly and squarely that he was not going to school any more—he did not care for an education. The mother was weak and frail. I presume her boy could have picked her up and put her over the fence; but she declared then and there that he would obey her command, and go to school, and *keep on going*, and she did not call on the father to back her up either. She calculated on the hold she had obtained on the boy's mind and soul by years of faithful work. He made wry faces, and grumbled, and declared he would give up the books he hated, just as soon as he got a little older. But in a very little time he was able to stand alone and reason sensibly by himself. If there is any one thing in this world that makes him respect and almost reverence that mother, even to-day, it is because she insisted on his getting an education. Had he stopped going to school when he was determined on it, he would have been worse than crippled for life. Why, I am not sure but it would have been better for that boy to have lost both arms

and both feet than to have stopped his education at the very time he was determined to give it up. In both of the illustrations I have used, I have supposed that both the father and the mother were professing Christians, or at least that they were at agreement. Well, now, friends, let us suppose the husband does not sympathize with the wife in her efforts to keep the boy pure-minded, and away from evil associates. Suppose the husband just laughs, and seems to think it is a big joke when it is a question as to who will come out ahead—the boy bent on evil, or the mother who is trying to restrain him. I have seen a few such cases. Some of you will perhaps say the mother was partly to blame. Dear brother or sister, we are all more or less human, and it would be strange if, in the conflict, the mother did not exhibit some lack of wisdom or show some imperfection. Now the question confronts us, "What shall a Christian mother do under such circumstances?" She can not appeal to the neighbors, or at least until things get into a terribly bad shape; nor can she appeal to the law. Even an appeal to the pastor of the church might result in doing more harm than good. She must watch and pray. She must especially pray very hard, if I may use the expression, and strive very hard to be sure that no wrong spirit enters her own heart. Why, in a case like this it is almost beyond human power to do just exactly right. Let us always, under such circumstances, remember, however, that a soft answer turneth away wrath. I have had trials of my own of this kind. I do not mean, dear friends, trials where the dear wife would not help or was not in sympathy, but in matters outside of our own home. I have had difficulties to meet where I am sure I was right, and no one or almost no one would help me. Perhaps some soul was bent on going to ruin. His friends and relatives laughed about it. May the Lord be praised, there are shining examples round about me now to show that I, with Jesus' help, triumphed. Yes, and that after I had given up over and over again. "Be not weary in well doing, for in due time ye shall reap if ye faint not."

Right before the whole family is a poor place to settle difficulties of this kind. The husband and wife must, first of all, somewhere or somehow, *by themselves*, come to an agreement. Let the good wife take the opportunity when he is not contrary (if that is the right way to tell it), and plead with him, and get his promise to co-operate with her—if not to the extent she wishes, then get it as far as she can; also by private talks with the older members of the family, say with the boy's sisters. Let each one plead with him alone. Most boys at a tender age think it a fine thing to "show off," and they will often show a stubborn and contrary spirit before others that they would not think of when alone with no one else near. I know there are boys who seem to think the more the mother

does for them the more she ought to do. I know they sometimes get to be cold and unfeeling as well as rude. I do not know any remedy for this state of affairs but constant and loving prayer. Ask the dear Lord to point out to you opportunities to *win* the child's confidence and respect. Do not make the mistake of doing *every* thing for the boy. Teach him to be self-reliant and manly. I know of a poor widow who let her boy lounge on the streets while she dug her potatoes. She gave as a reason that if he dug them he chopped into them and spoiled so many she would rather do it herself. Now, this woman made the mistake of thinking more of her potatoes than she did of her boy—at least, that is the way I look at it. The boy should have been made to dig the potatoes, and dig them carefully and well, even if it cost ever so much more than the potatoes were worth. Boys will never be made *better* by letting them lounge on the streets instead of doing the work they ought to do.

Now, in closing let me say a word to these boys—that is, if they ever get hold of my writings. My young friends, very likely you will some time see that patient, hard-working, faithful mother laid in her coffin. When you do, you will think of your unkind words and acts to her. You will remember when you might have carried the wood or dug the potatoes for her when she was tired and worn out. You will, perhaps, recall every unkind speech you ever made to her. Just once in my life I resisted my good father's authority. I did not strike him, thank God, but I "talked back" as the boys call it. I had been among evil companions. They jeered me because I obeyed my father and never said a word back. They made me think it would be a fine thing if I had the courage to talk back to him. May God forgive me that one time. Father forgave it freely, for I asked forgiveness afterward; but when I sat by his bedside when he breathed his last, I thought of that one time, and I thought, too, that I would give almost every thing in this world if it had never happened. About the last work he did on earth was to dig potatoes. After he was gone it seemed to me it would be the greatest privilege that this world could offer if I had the chance once more to go and work by his side and help him when he was really too sick to work himself. But it is the mothers, I think, that bear the heaviest burdens. I have told you several times that Mrs. Root prefers to do her own work without any hired help; and every day I try to do some of the heavy work for her when I know what she wants done; but should she die first, I am sure that I shall regret—yes, bitterly regret—that I did not try *harder* to lift more of her burdens and to prevent her from getting so tired out as she does almost every day.

And finally, dear friends, there is nothing in this world that can so contribute to gentleness and Christian courtesy in the home, among all its members, as the love

of Christ Jesus. I know it is getting to be a good deal out of fashion to have family worship; but I am sure thousands of homes would be greatly benefited by having just a few words of Scripture read some time during the day before all the family. Let the children learn a text and repeat it at breakfast time, if you can not do better. Let the mother have her text too, and do not be in too much of a hurry; and, if it can be brought about, have the father or somebody else give thanks to God. One verse of some one of our many beautiful hymns is a grand thing to encourage gentleness and courtesy in the hearts of all. May God in his great mercy bless the words I have tried to speak to you; and may they be the means of letting the spirit of the dear Savior find a lodgingsplace in homes where he has heretofore found no entrance or welcome.



It is really one of the fine arts to study out how you can get from place to place in traveling, especially in a strange land, and not waste time and money. You want all the aids you can possibly get hold of in the way of maps and time-tables, and study the railroads, ask questions of people you meet, look ahead and plan ahead; and even then you will find every little while, by looking back, where you could have saved dollars in money and days of time had you been thoroughly posted in regard to all the crooks and turns and queer combinations of methods of travel.

Before starting for home I wanted to visit Huntington, Putnam Co., Fla. I knew it was near Palatka, and I had planned to go to Palatka first and then find which way I would have to go to reach Huntington. Finally it occurred to me that Huntington might be on the very road I was going to take from Tampa to Palatka. Sure enough, so it was; and at just the last minute I saved going right past where I wanted to go, in the night, and being obliged to go back over the same ground the next day.

I reached Huntington about an hour before daylight. The station was dark, and, in fact, it was dark everywhere. It was pretty cold, too, for one who had been having malarial chills. I finally found a colored man camping out beside a fire in the open air. He pointed out a hotel, but he said he was afraid nobody lived there. Sure enough, it was the old story—pounding at the doors and getting no response. Then I went to the nearest dwelling, with a like result. I tried another and another. I began to feel homesick, discouraged, sick every way. When one who is sick tries day after day for a week or two to travel and meet friends, and appear as one is ex-

pected to do while visiting them, he is apt to get a severe attack of homesickness, and conclude wisely, under the circumstances, "there is no place like home." I felt especially sick of beautiful homes where nobody lived. Finally I spied a man carrying a lantern. I do not know but I said out loud, "Thank God, there is somebody in this place who has life enough to be up before daylight and to be getting ready for his work." This man took me to his home, gave me a warm place by the fire, and a warm breakfast. He informed me he was in the employ of Dr. Walker, and the latter is agent for and has charge of the large estate of Mrs. Huntington, who gave the town its name. Mr. Walker seems to be the busy man, or the business man of the town. He has charge of the sawmill, the store, of a small mill for making syrup from sugar cane, and he is not only doing every thing he can to open up the different industries of the place, but he is the prime mover in the church, Sunday-school, and all other Christian work. After I was introduced to him and was invited over to his beautiful home, I forgot most of my troubles, and partly forgot my chills.

Huntington, like the rest of Florida, is full of these strange and wonderful strong contrasts. It is my misfortune or good fortune, I hardly know which, to own 160 acres of land within a mile or two of the town of Huntington. In hunting up somebody to take me over there I ran into two or three beautiful orange-groves, pretty well laden with fruit, that promised a good crop for the coming season. I saw some kumquat-trees loaded down with little oranges that almost made one think of a gooseberry-bush but on a larger scale. The kumquat-trees and the orange-trees also, were protected by means of wooden boxes and canvas tents; but, if I am correctly informed, the money expended in canvas tents and wooden boxes and things of a like nature during the past winter were mostly a needless protection; for trees unprotected, at least as far north as Huntington, did just about as well as (and in some cases better than) those that have protection. Many of the people have taken heart as their trees begin to assume their proportions and set fruit as they did before the great freeze. I was much better pleased with the looks of my Florida ranch than I expected to be. The worst trouble is that it is about two miles from the station. Now, two miles in Ohio is near by; but when you come to pull a wagon through the Florida sand, it seems a long way off. There are beautiful lakes that run into my land, with water as clear as crystal, and grassy shores as green and inviting as anywhere in the world; yes, and some of the land along the lake would grow good crops of almost every thing that belongs to that region, including oranges and pineapples. Of course, the latter would have to have protection. At one time there were quite expensive buildings on the place; but now every thing is tumbled down and gone to

ruin. Here and there a plantation is under cultivation, and gives rich promise; but deserted houses and run-down farms are the rule.

Dr. Walker has not only a beautiful home, but a wonderful family. One of the girls tends the village store and postoffice. One of the boys has charge of the sawmill; a third one a sugar-cane mill, and so on with the various enterprises all over the place.

After leaving Palatka I made a brief stop at Lake City, where the experiment station is situated. A great deal of important work is being done here, and I was pleased to notice the improvement in many things, especially in their methods of thoroughly testing grasses, grains, fruits, and every thing else that promises to succeed in sunny Florida; but while the courteous attendant was showing me over the grounds I was taken with another of my chills, and so severely, that I went back to my hotel, and from there took the train for home.

Now, please do not get the impression from what I have written from my own experience that Florida is an unhealthy place. I met people everywhere who can live there, and be comfortable and happy, who can not stand the frosts and snows of the North; but I am inclined to think it is not the best place for one who is subject to malarial attacks.

I was obliged, although reluctantly, to break my appointment with our good friend J. M. Jenkins, of Wetumpka, Ala. I regretted this the more as he had promised to take me over to visit Booker T. Washington's industrial school for colored people.

Some of you may inquire if I found relief on getting back to Ohio. I reply that the frosty nights and the surroundings of home seemed to have for a time a beneficial effect; but just now, as I dictate this, September 17, I have my fur cap pulled down over my ears, and have on my winter flannels and a big overcoat, for I have just been having another spell of the chills. Mrs. Root and I are planning, however, to start day after to-morrow for a month's outing in the Traverse region of Michigan. This locality has seemed especially favorable for people troubled as I am.

As an apology for saying so much about myself and my infirmities, perhaps I should mention there are hundreds of afflicted people reading these travels; and I am constantly receiving inquiries as to which place I would advise for this, that, and the other malady. Dear friends, I am asking God day by day to guide and direct me in my efforts to help my fellow-men in their pursuit of health. If my money and my experience can be of benefit to you, they are freely given.

Convention Notice.

The annual meeting of the Northern Illinois Bee-keepers' Association will be held in the court-house in Rockford, Ill., on Tuesday and Wednesday, Oct. 15 and 16, 1901.

B. KENNEDY, Sec.
Rockford, Ill., Rural Route, 5.



POTATOES FOR COOKING INSTEAD OF PLANTING.

I extract the following from the *Country Gentleman*. Of course, they were kind enough to send me the cut that goes along with it.

A vast amount of literature has been written in recent years on how potatoes should be planted and cultivated and sprayed in order to insure a large crop. It would seem that now attention might well be turned to the growing of potatoes which should possess good quality. This matter has been called forcibly to my attention during the past winter, when having occasion to purchase potatoes from the store. It has been almost impossible to secure any which possessed first-class cooking quality.

Most people know a good potato when they eat it, but all are not familiar with the conditions which produce the good qualities, and neither are they familiar with the inherent principles upon which quality depends. When a dish of nicely boiled potatoes is brought upon the table, we have come to recognize the white, flaky, mealy potato as one which will eat well, and we also recognize in the soggy, close-grained potato one of poor quality. Very much depends on the variety of potato grown, for a variety which possesses good quality in one section may be very inferior in another. The Carman No 3 is one of the best varieties grown in Central New York, but we have been informed that in Central Pennsylvania its quality is not good. The Rural New-Yorker No. 2 while one of the best yielders, has with us not much to recommend it in way of quality.

If potatoes then are to be grown for quality, care must be taken first to learn what varieties possess the best quality in the immediate section. But a small part of the problem is solved when the variety is de-

tato sells as well as another. This is not strictly true. Last October the potato crop at Cornell University was harvested and sold in the local market direct from the field for 60 cents per bushel. There was a greater demand for them than could be supplied. Farmers are to day bringing potatoes to the same market and selling them for 40 cents per bushel. We believe it will pay a farmer to make a special effort to grow good potatoes, and that in every market there can be created a demand for potatoes possessing special quality. Once this demand is created, it will not be satisfied with the watery, soggy potatoes grown upon clay soils, but there will be required a "mealy," dry potato, which when properly cooked is fit for a king.

I can indorse every word of the above. We grow potatoes for seed, or mainly so; but all the time we have orders for choice potatoes for cooking purposes only, and usually from people who say they are willing to pay a big price if they can only get some potatoes that will cook up dry and mealy, like the plateful in the picture. By the way, it has many times made me feel sad to see that our high-priced hotels and restaurants do not seem to have any comprehension of what a good potato is. We pay the biggest kind of prices, and almost every thing else is extra fine; but potatoes, especially the baked ones, are only once in a great while equal to what we find on the average farmer's table. Why, it just makes me hungry every time I look at that plate of potatoes. When I am sampling new varieties for quality, I often watch the process of cooking; that is, I get a potato on my plate, one like those seen in the picture, give it a sprinkle of salt and pepper, and then drop a little butter on it while the potato is hot; and is there in the whole round of food products



DISH OF POTATOES PROPERLY COOKED

cided upon; for the best variety when grown upon improper potato-soil, or with poor care, will be deficient in quality. The ideal soil for potatoes is the sandy or gravelly loam; and where such a soil is selected and the growing crop well cared for, no difficulty will be experienced. A large yield can be secured by growing the tubers in a clay or clay-loam soil, but they will not possess the best quality.

The per cent of starch and the per cent of dry matter in the tubers determine largely whether they will cook well. Starch is manufactured in the leaves of the plants, under the action of sunlight, and from the leaves it is conveyed to and stored in the tubers. If the "bugs" or "blight" or leaf flea-beetles are permitted to impair the vigor of the foliage the starch-manufacturing organs are weakened, and the quality of the tuber grown may suffer thereby.

The assertion is frequently made that it will not pay the farmer to grow potatoes for quality; that one po-

any thing more satisfying and delicious than a real nice potato?

Our friend is right in regard to soils. We get great yields on our clay grounds; but the quality—that is, when they are dug in the fall—is never equal to that of potatoes grown by my cousin in Summit Co., or in the sandy soil of Northern Michigan. Many of our potatoes, however, that are not first-class in the fall are all right in the spring. The New Craig is one of them. Another thing, certain potatoes will be nice one season and not the next. The Mills Prize, grown on our clay soil here in Medi-

na, one fall were almost if not quite equal to Freeman. The next year they were no better than other varieties. Almost any potato will be good if we can keep the foliage bright, green, and healthy until it comes to full maturity. Bugs, blight, and early frost are sure to spoil the quality, at least for a fall potato.

All things considered, one year after another, for our locality, I do not believe we have any thing better than the State of Maine; but, unfortunately, a great many strains of this seed are either mixed or run out. My neighbor Ballasch, mentioned in our issue for Sept. 1, has recently sent to the originator for seed of the State of Maine that is absolutely pure and up to standard. I have obtained from him two barrels for planting next season. Shall we not all work a little harder for quality as well as for quantity?

You will notice the writer in the *Country Gentleman* advocates cooking potatoes with the skins on—at least so the picture shows; and I believe this is generally the farmer's style, and perhaps the best one, although Mrs. Root has a plan of her own with par-ed potatoes. When they are done to the proper point she pours the water off and takes the kettle (not too many potatoes at one time) to the door where there is a fresh cool breeze, and gives the potatoes a good shaking (or bouncing) in the breeze. This is too get rid of the moisture so that the potato may roll up, and crack open dry and floury. I have several times seen her take potatoes that were watery and very inferior with the ordinary way of cooking, and make them not only look nice but taste nice. There is certainly quite a knack in making poor potatoes in cooking so as not only to make them presentable but really nice to eat.

THE TRAVERSE REGION OF NORTHERN MICHIGAN FOR SUFFERERS WITH ASTHMA.

I have the asthma so bad here that I am good for nothing and I am thinking of going up into the Traverse region to live. I have been up there twice, and find that, as long as I am there, I am all right; but as soon as I come home I go to wheezing again.

I want to find out all I can about bee-keeping up there.

Winchester, Ind., Aug. 26.

F. M. HAYNES.

Friend H., I am glad to get your testimonial in regard to the Traverse region. There are a good many bee-keepers around there, but there have been only a few large reports of honey production. There is usually a steady flow of honey, enough to keep the bees from robbing, almost all through the warm months. During this season the willow-herb grows in great profusion, especially where the ground has been burned off. Although I am not afflicted with asthma, my experience so far as health is concerned is much like yours. As I write this, the 19th of September, I am preparing to go up there with Mrs. Root, for a month, mainly to see if my health will be better in that locality for a whole month at a time. Our ranch is close by what is call-

ed the Bingham Dock, about 2½ miles straight east of the town of Bingham, Leelanaw Co., Mich.

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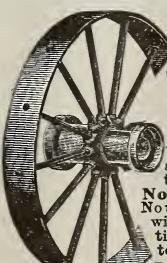
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In writing, mention Gleanings.

WIDE-TIRED WHEELBARROWS, ETC.

I inclose a slip. Please give your careful attention. The past three months I've had to wheel a great deal of coal at the asylum, and I fully believe that something of that kind is what is needed.

Traverse City, Mich.

R. HADLEY.

The slip referred to reads as follows:

Wide-tired wagons are becoming common. Now why in the name of common sense don't some enterprising manufacturer give us a wide tired wheelbarrow, or a wide-tired wheel-hoe?

We sometimes wonder whether wheelbarrow-makers ever attempted to wheel one of their barrows over a bit of soft ground! We also wonder if these same makers ever stopped to think that the wheel might be placed further back so as to take most of the load-weight off from a man's arms?

We doubt whether any wheelbarrow-manufacturer ever did these things; for, if he had, he never would be content to go on year after year, turning out the same identical kind of barrow that came over in the Mayflower.

What's the sense of putting the wheel way in front so that nearly all the weight comes on a man's shoulders? Why not place the wheel near the center and more under the load?

And, too, are wide-tired wheels such unheard-of things that barrow-manufacturers need to be told of the advantages of using them?

Friend H., while in Florida I heard a great many inquiries for a wide-tired wheelbarrow. I suppose that, in the sandy soil of Northern Michigan, where you are, the conditions are much the same. Our Daisy wheelbarrow formerly had a tire 1½ inches wide. The last carload has tires 1¾ inches wide. If I am correct, soft sandy soils would need 2½ or 3 inches. But you will find a difficulty right here. Unless there is a wooden felloe inside of the tire, the soft sand or mud will run in and pile up on the inside of the wheel, and make it run harder than a narrow tire or one filled with wood so as to prevent sand or mud from running in as I have described. A tire 3 inches wide filled with wood makes a heavy, clumsy wheel. The same objection applies to wide-tired wagon-wheels made of thin sheet steel. A good many times they are heavier to draw than common wagons. There are wheelbarrows made where the load is thrown pretty well over the wheel; but if I am right they are not generally liked. It is true the wheel sustains the greater part of the load; but it sinks into the ground worse, and is not so easy to turn. If you had a chance to try all kinds of wheelbarrows, one after the other, I think you would decide the manufacturers of the Daisy have got it about as nearly right—that is, for most localities—as it can be made. You may not be aware that there has been a great deal of experimenting on this very thing.

ADVERTISING SECRETS, ETC.

In one of our agricultural papers I found a very enticing advertisement to the effect that a secret would be sent to any one on receipt of 25 cents, for making 3 lbs. of butter from 1 lb. The butter was to be of extra quality, and even a child could make it, and with this process any one could get rich, for butter will always sell anywhere in the world. I presume the editor of the

above paper never thought that he might send the 25 cents himself, and do his whole list of readers a big lot of good (?) without its costing them a cent. Perhaps he thought it was not his affair. But I decided, as soon as I saw the advertisement, that it was my affair, especially where I could help so many people for so small an investment. Here is the wonderful secret:

TO MAKE THREE POUNDS OF BUTTER FROM ONE POUND.

Take one pound of fresh churned butter (not salted), and put in suitable vessel while warm and soft. Add the yolks of three eggs. Mix well together, then add (slowly) warm sweet milk (just milked from the cow), and beat rapidly with a spoon as you add the milk. The butter and eggs will take up the milk slowly until you have three pounds of butter. When it quits taking up the milk as you pour it in, it is done. Then salt and mold as other butter. Not much working required. J. E. MOLLETTE, Ridgeley, Tenn.

May be the above is all right; but I can not help wondering what will happen to this eggy mixture if it should not be used up in three or four days during hot weather. Never mind. If it turns out all right you can send your thanks to me on a postal card.

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